

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
International Bureau Seeks Comment on	)	
Recommendations Approved by World	)	IB Docket No. 16-185
Radiocommunication Conference Advisory	)	
Committee	)	
	)	

**COMMENTS OF WI-FI ALLIANCE**

Wi-Fi Alliance submits these comments in response to the Public Notice issued in the above-referenced proceeding by the International Bureau.<sup>1/</sup> The Public Notice seeks comment on recommendations made by the Commission’s 2019 World Radiocommunication Conference (“WRC- 19”) Advisory Committee (“WAC”) and draft proposals provided by the National Telecommunications and Information Administration (“NTIA”) to assist the Commission develop U.S. positions for the upcoming WRC-19.

Among the WAC’s recommendations is a draft proposal (“WAC/047”) for WRC-19 Agenda Item 9.1/Issue 9.1.5 regarding requirements for the protection of recently introduced radar systems in the 5 GHz band. Wi-Fi Alliance urges the WAC to adopt View A for this agenda item, which appropriately would not impose new or additional requirements on Wi-Fi deployments that would threaten the technology’s use of the 5 GHz band.

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<sup>1/</sup> *International Bureau Seeks Comment on Recommendations Approved By World Radiocommunications Conference Advisory Committee*, Public Notice, IB Docket No. 16-185 (rel. Oct. 30, 2017) (“Public Notice”).

## **I. INTRODUCTION**

Wi-Fi Alliance®<sup>2/</sup> is a global, non-profit industry association of 800 leading companies from dozens of countries devoted to seamless interoperability. With technology development, market building, and regulatory programs, Wi-Fi Alliance has enabled widespread adoption of Wi-Fi® worldwide by certifying thousands of Wi-Fi products each year. It is also an active participant before the FCC and in international proceedings, promoting regulatory actions that facilitate Wi-Fi connectivity while maximizing unlicensed spectrum use in general. Because the Commission will adopt a position regarding a WRC-19 issue that may severely impact Wi-Fi use of the 5 GHz band, Wi-Fi Alliance is pleased to have the opportunity to submit these comments.

## **II. U.S. DESIGNATION OF THE 5 GHZ BAND FOR U-NII DEPLOYMENT HAS DRIVEN WI-FI GROWTH**

In 1997, the Commission made 300 megahertz of spectrum available for use by U-NII (including Wi-Fi) devices, which are regulated under Part 15 of the Commission's rules. The Commission established regulations for the 5.15-5.25 GHz (U-NII-1 band), 5.25-5.35 GHz (U-NII-2A band), and 5.725-5.825 GHz (U-NII-3 band). In 2003, the Commission made an additional 255 megahertz of spectrum available for U-NII devices at 5.47-5.725 GHz (U-NII-2C band). These actions aligned the frequency bands used by U-NII devices in the U.S. with the frequency bands used by Wi-Fi devices in other parts of the world. In 2014, the Commission further revised the U-

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<sup>2/</sup> Wi-Fi®, the Wi-Fi logo, the Wi-Fi CERTIFIED logo, Wi-Fi Protected Access® (WPA), WiGig®, the Wi-Fi Protected Setup logo, Wi-Fi Direct®, Wi-Fi Alliance®, WMM®, Miracast®, and Wi-Fi CERTIFIED Passpoint®, and Passpoint® are registered trademarks of Wi-Fi Alliance. Wi-Fi CERTIFIED™, Wi-Fi Protected Setup™, Wi-Fi Multimedia™, WPA2™, Wi-Fi CERTIFIED Miracast™, Wi-Fi ZONE™, the Wi-Fi ZONE logo, Wi-Fi Aware™, Wi-Fi CERTIFIED HaLow™, Wi-Fi HaLow™, Wi-Fi CERTIFIED WiGig™, Wi-Fi CERTIFIED Vantage™, Wi-Fi Vantage™, Wi-Fi CERTIFIED TimeSync™, Wi-Fi TimeSync™, Wi-Fi CERTIFIED Location™, Wi-Fi CERTIFIED Home Design™, Wi-Fi CERTIFIED Agile Multiband™, Wi-Fi CERTIFIED Optimized Connectivity™, and the Wi-Fi Alliance logo are trademarks of Wi-Fi Alliance.

NII rules reforming the operational requirements and constraints for Wi-Fi operations in 5 GHz band.

Since the Commission's initial action making 5 GHz spectrum available for U-NII operations, Wi-Fi has evolved from a nascent technology in to a vital component of telecommunications infrastructure -- leveraging a limited amount of unlicensed spectrum into connectivity for billions of users and establishing U.S. leadership in this multibillion dollar, global industry. In that time, the Wi-Fi industry has developed innovative solutions to overcome bandwidth limitations and spectrum congestion while increasing quality of service.

### **III. THE 5 GHZ BAND IS THE ONLY GLOBALLY HARMONIZED MID-BAND SPECTRUM AVAILABLE FOR WI-FI DEPLOYMENTS**

In 2003, following U.S. leadership, the international Radio Regulations ("RR") were revised to designate only three bands for the implementation of Radio Local Area Networks ("RLANs"): 5.150-5.250 MHz; 5.250-5.350 MHz; and 5.470-5.725 GHz. Although limited, this spectrum offers contiguous bandwidth to enable implementation of the 80 megahertz/160 megahertz wide channels needed for gigabit Wi-Fi and to support billions of devices and numerous applications. The next generation of Wi-Fi technology (IEEE 802.11ax) will rely on access to 5 GHz spectrum to provide even faster speeds and better coverage to support 5G user expectations. Wi-Fi shipments will grow to over 4 billion annually by 2021, largely fueled by demand for next generation devices.

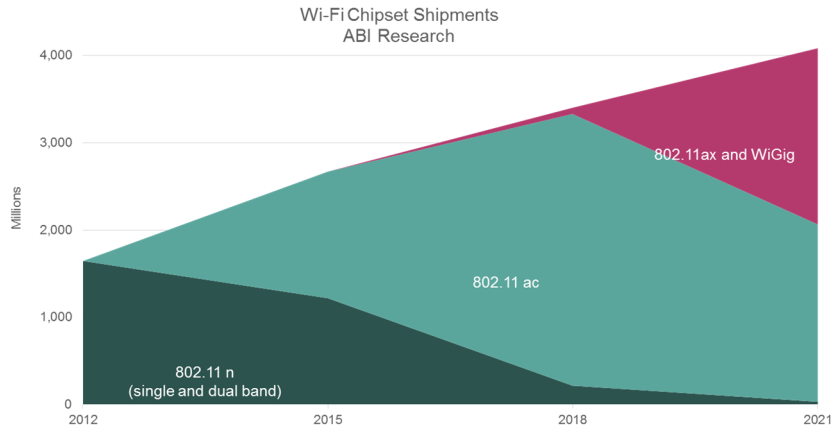


Fig. 1 Wi-Fi Shipments in 5 GHz band

#### IV. THE WI-FI INDUSTRY REQUIRES A STABLE 5 GHZ BAND REGULATORY ENVIRONMENT

In light of the existing and planned deployments of Wi-Fi, changes to the international regulations governing its implementation in 5 GHz may be disruptive and economically damaging. This is particularly important with regard to WRC-19 Agenda Item 9.1/Issue 9.1.5 concerning a possible new requirement on 5 GHz RLANs to protect recently introduced bi-static and advanced fast frequency-hopping radar systems operating in the 5.250-5.850 GHz frequency range. Over the past several years, the U.S. and ITU carried out a significant amount of work to study coexistence between RLANs and these new radar systems. The studies concluded that there is no viable regulatory solution that would enable RLANs to comply with this requirement. Yet, regrettably, some radar proponents continue to insist that international regulations must be modified and this impossible requirement must be imposed. Under that scenario, the only way to comply with that requirement would preclude RLAN operations on most of the available channels in the 5 GHz band. (see Figures 2a and 2b). Accordingly, the U.S. should oppose any attempts to impose a regulatory obligation that would hobble Wi-Fi and the Commission should adopt View A of WAC/047 for WRC-19 Agenda Item 9.1/Issue 9.1.5.

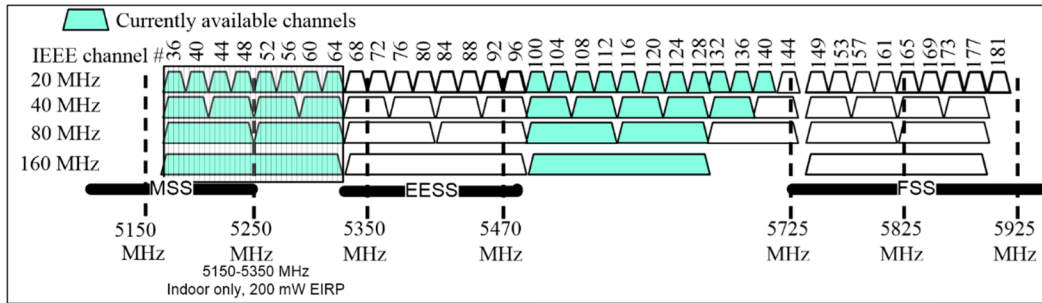


Fig. 2a: Current International Wi-Fi Channels in 5 GHz

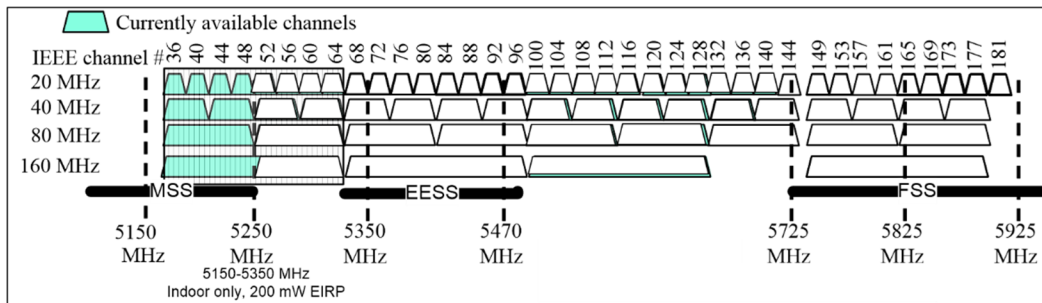


Fig. 2b: International Wi-Fi Channels in 5 GHz if RLANs  
Are Precluded from Operating in Frequency Bands Under Consideration in WRC-19  
Agenda Item 9.1/Issue 9.1.5

## V. CONCLUSION

Wi-Fi's ability to deliver broadband connectivity and the associated socioeconomic benefits depend on spectrum access, which would be significantly undermined if the proposal included in WAC/047-View B is adopted by the U.S. for WRC-19. At a minimum, this proposal would create a highly unstable and precarious regulatory environment for existing and future Wi-Fi operations in US and worldwide – stifling industry's innovation, investment and development. Wi-Fi Alliance remains committed to finding workable regulatory solutions to protect radar systems in the 5 GHz band. Once these solutions are developed, there will be an opportunity to properly address protection of radar systems at the appropriate World Radiocommunication Conference.<sup>3/</sup> Until then,

<sup>3/</sup> Each WRC agenda includes a standing Agenda Item 2 which calls on the Conference to examine the revised ITU R Recommendations incorporated by reference in the RR. This standing agenda item would allow consideration of this issue at any future competent WRC.

however, it is inappropriate to impose regulatory requirements that, by everyone's admission, cannot be implemented. In the absence of a current regulatory solution, Wi-Fi Alliance urges adoption of the proposal included in WAC/047-View A.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Edgar Figueroa', with a long horizontal flourish extending to the right.

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